

Overview



The Open Geodata Portal



Type of Act 174 Data



Access to Act 174 Data



WHAT VCGI DOES



BUILD

Foundational Datasets



LEAD

Development and use of Statewide Geographic Information System (GIS) and the Coordination it requires



EMPOWER

Data access, visualization and use





The Open Geodata Portal

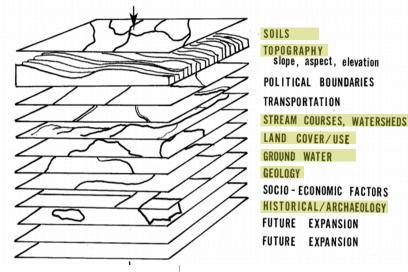
Background and Introduction



The Creation of the Vermont State Data Base

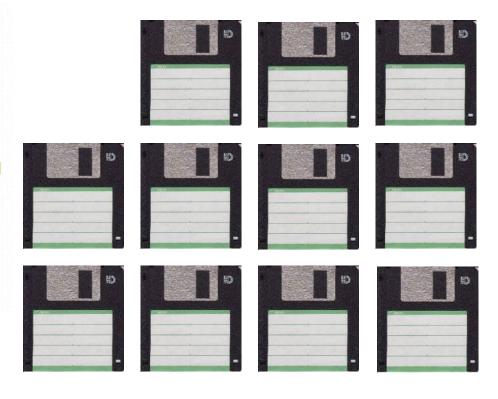
A GEOGRAPHIC INFORMATION SYSTEM for VERMONT

A Program of Work April 1983



School of Natural Resources University of Vermont

1.6





1992

Changing With Technology

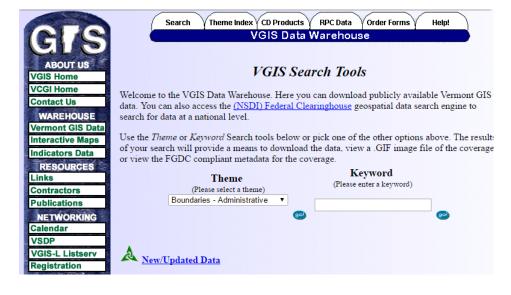
VCGI *

1983

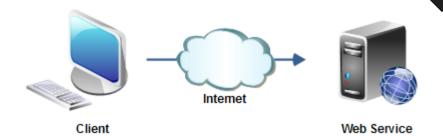
1992



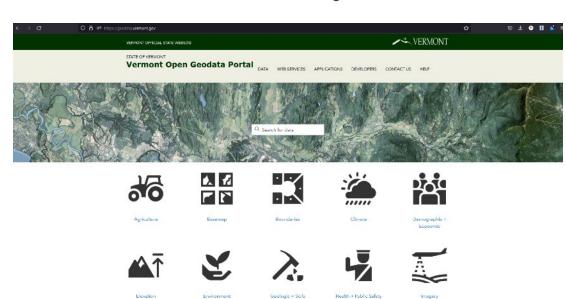
1998



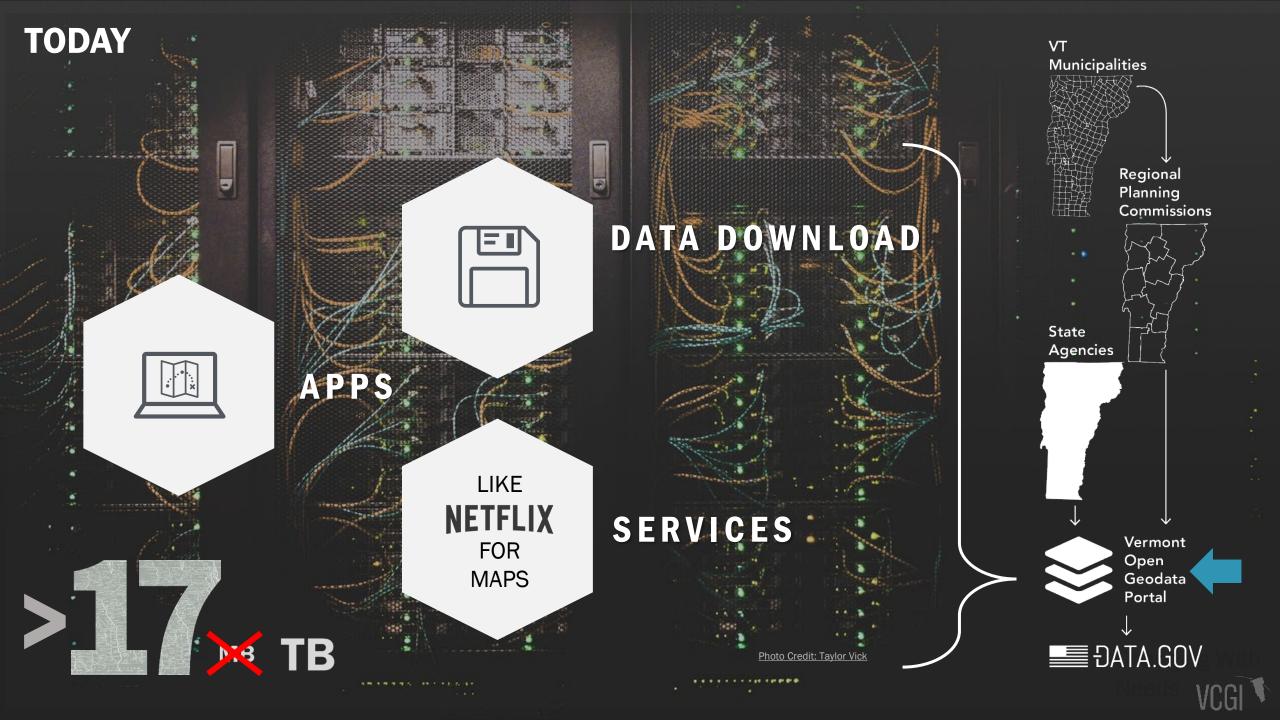
2000s



Late 2017 - Present Day



geodata.vermont.gov



geodata.vermont.gov













Agriculture

Basemap

Boundaries

Climate

Demographic + Economic



Type of Act 174 Data

Known & Possible Constraint Data Renewable Wind & Solar Energy Potential Rooftop Solar Data



Act 174 Statewide Energy Planning Data Updated: Known and Possible Constraints, Renewable Energy Potential, Rooftop Solar

https://vcgi.vermont.gov/data-release/act-174-statewide-energy-planning-data-updated-known-and-possible-constraints

Act 174 2022 GIS Layers

In addition to their display in the Vermont Planning Atlas, the following GIS data layers are available:

Item / Overview	Туре	Availability	Service URL	Download
VT Act 174 Ground Mount Solar Potential	Feature Layer	Service, Download	<u>Service</u>	Download
VT Act 174 Wind Potential	Feature Layer	Service, Download	<u>Service</u>	Download
VT Service - Act 174 Constraint Layers - 2022	Feature Layer	Service, Zipped download	<u>Service</u>	See Below
	Web Feature Service (WFS)	Service	Service (WFS)	
VT Service - Vector Tile Layer - Act 174 Known Constraints 2022	Vector Tile	Service, Zipped download	<u>Service (Vector</u> <u>Tile)</u>	<u>Download</u> (<u>.zip)</u>
VT Service - Vector Tile Layer - Act 174 Possible Constraints 2022	Vector Tile	Service, Zipped download	<u>Service (Vector</u> <u>Tile)</u>	<u>Download</u> (<u>.zip)</u>
VT Service – Lidar Rooftop Area Solar Radiation (1m) Cached – WM	Tile Layer	Service, Zipped download	<u>Service</u>	<u>Download</u> (<u>.zip</u>)
	Feature Layer	Service, Download	<u>Service</u>	<u>Download</u>
VT Data - Rooftop Solar Potential - Act 174 2022	Web Feature Service (WFS)	Service	Service (WFS)	
VT Data - Town Rooftop Solar Potential - Act 174 2022	Feature Layer	Service, Download	<u>Service</u>	<u>Download</u>
	Web Feature Service (WFS)	Service	Service (WFS)	

Possible Constraints 2022 Layer Inputs:

- AE/VCE Unconfirmed Vernal Pools
- · FEMA Special Flood Hazard Areas
- · Agriculturally Important Soils
- · Act 250 Agricultural Soil Mitigation Areas
- Deer Wintering Areas
- Hydric Soils
- Conservation Design Layers
 - o Interior Forest Blocks Highest Priority
 - o Connectivity Blocks Highest Priority
 - o Physical Landscape Blocks Highest Priority
 - Surface Water and Riparian Areas Highest Priority
- Protected Lands

Known Constraints 2022 Layer Inputs:

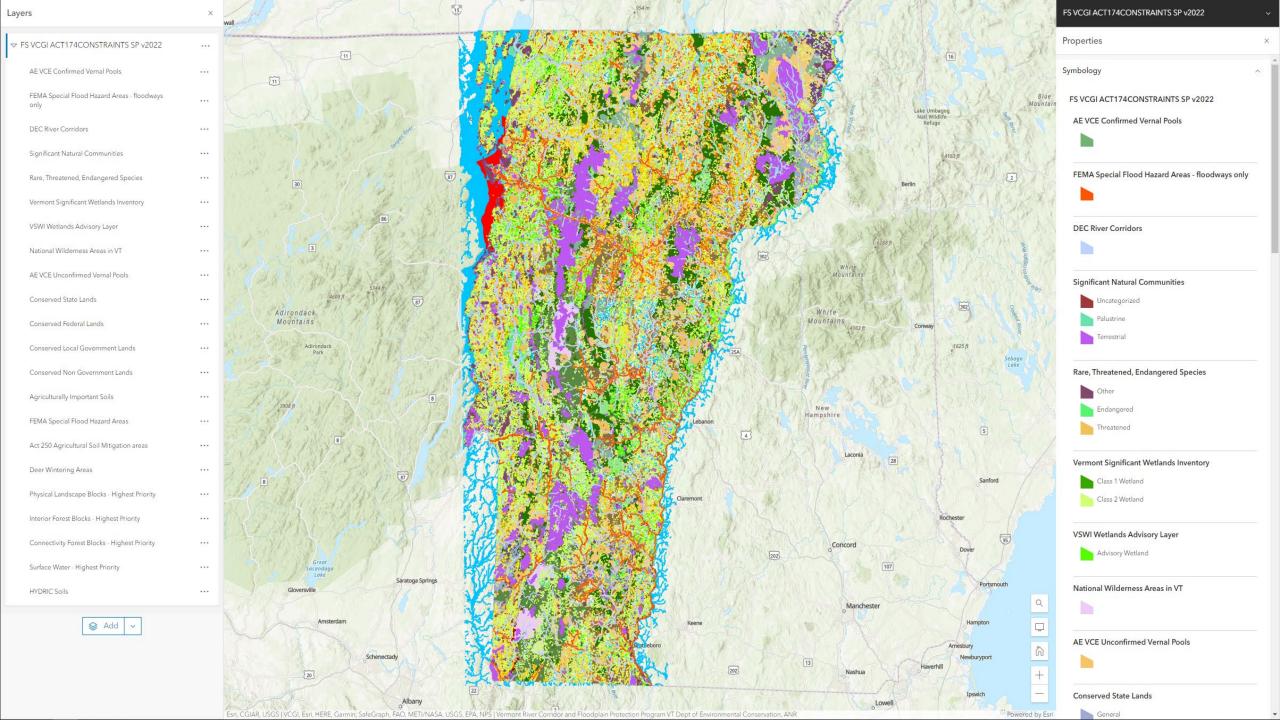
- · Vermont Significant Wetlands Inventory
- · VSWI Wetlands Advisory Layer
- · AE/VCE Confirmed Vernal Pools
- FEMA Special Flood Hazard Areas Floodways Only
- · DEC River Corridors
- Significant Natural Communities
- · Rare, Threatened, Endangered Species
- · National Wilderness Areas in VT



Known and Possible Constraint Data

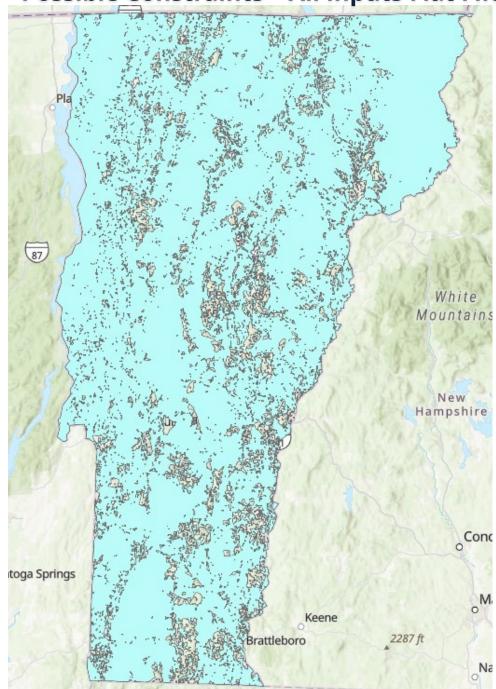
Item / Overview	Туре	Availability	Service URL	Download
VT Service - Act 174 Constraint Layers - 2022	Feature Layer	Service, Zipped download	<u>Service</u>	See Below
	Web Feature Service (WFS)	Service	Service (WFS)	
VT Service - Vector Tile Layer - Act 174 Known Constraints 2022	Vector Tile	Service, Zipped download	Service (Vector <u>Tile)</u>	<u>Download</u> (<u>.zip)</u>
VT Service - Vector Tile Layer - Act 174 Possible Constraints 2022	Vector Tile	Service, Zipped download	<u>Service (Vector</u> <u>Tile)</u>	<u>Download</u> (<u>.zip)</u>





Known Constraints - All Inputs Flat File 87 White Mountains New Hampshire Conc Keene Brattleboro

Possible Constraints - All Inputs Flat File





Renewable Energy Potential Data

Item / Overview	Туре	Availability	Service URL	Download
VT Act 174 Ground Mount Solar Potential	Feature Layer	Service, Download	<u>Service</u>	Download
VT Act 174 Wind Potential	Feature Layer	Service, Download	Service	<u>Download</u>

Ground Mount Solar Potential layer comes from the 2010 Renewable Energy Atlas of Vermont (REAVT) effort. This layer was further processed to meet the requirements of Act 174 by removing areas with "known constraints" and to identify areas with "possible constraints" as outlined in the "Act 174 Energy Planning Standards"

Wind Potential layer represents three combined wind resource layers: Potential Residential and Small and Large Commercial Areas. The data was further processed to meet the requirements of Act 174 by removing areas with "known constraints" and to identify areas with "possible constraints" as outlined in the "Act 174 Energy Planning Standards"





Ground Mount Solar Energy: filtered Resource Potential

Constraint_



Prime Solar - No Constraint



Base Solar - Possible Constraints

Wind Energy: Filtered Resource Potential

Constraint_



Prime Wind -No Constraint



Base Wind - Possible Constraints



Rooftop Area Solar Radiation Potential Data

Item / Overview	Туре	Availability	Service URL	Download
VT Service – Lidar Rooftop Area Solar Radiation (1m) Cached – WM	Tile Layer	Service, Zipped download	<u>Service</u>	<u>Download</u> (.zip)
VT Data – Rooftop Solar Potential – Act 174 2022	Feature Layer	Service, Download	<u>Service</u>	<u>Download</u>
	Web Feature Service (WFS)	Service	Service (WFS)	
VT Data – Town Rooftop Solar Potential – Act 174 2022	Feature Layer	Service, Download	<u>Service</u>	Download
	Web Feature Service (WFS)	Service	Service (WFS)	



VT Service - Lidar Rooftop Area Solar Radiation (1m), Cached - WM



This ASR raster estimates rooftop solar potential for individual structures so they can be aggregated at the municipal level to inform RPCs on foortop solar potential

Tile layer by Services_VCGI

Item created: Feb 2, 2023 Item updated: Feb 28, 2023 View count: 25

Description

(Link to Metadata) The ESRI Area Solar Radiation tool was run on the statewide nDSM with a mask on lidar derived building footprints. A description of the workflow used to produce this layer can be found at Estimate solar power potential | Learn ArcGIS. This Tile layer's source data is available as a TIF-file download.

Layers

IMG_VCGI_ROOFTOPSAR_WM_v1.tif

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Products

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Documentation

Estimate solar power potential

Determine how much electricity could be generated from solar power in a city neighborhood.

Area Solar Radiation Potential of Rooftops



VT Service - Lidar Rooftop Area Solar Radiation (1m), Cached - WM

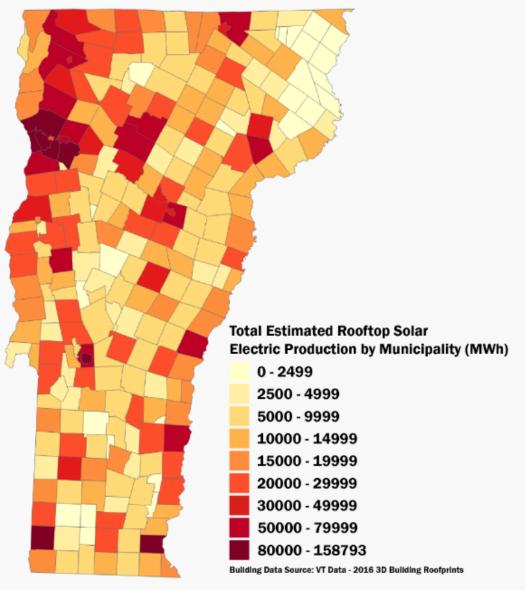
IMG_VCGI_ROOFTOPSAR_WM_v1.tif



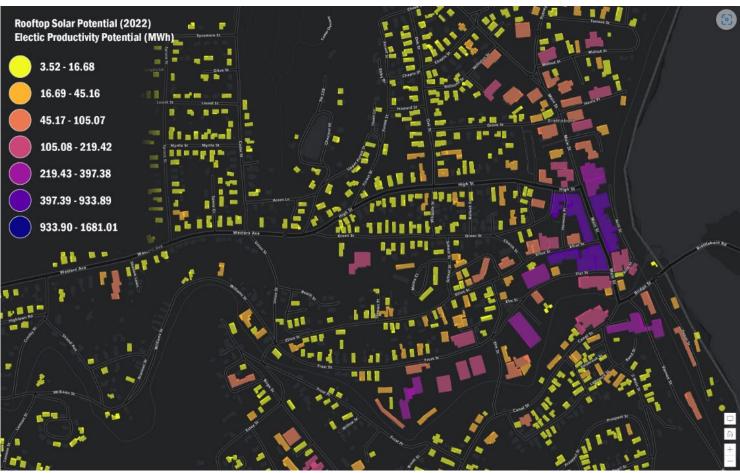
1.43305 - 0.8



Town Rooftop Solar Potential



Individual Rooftop Solar Potential



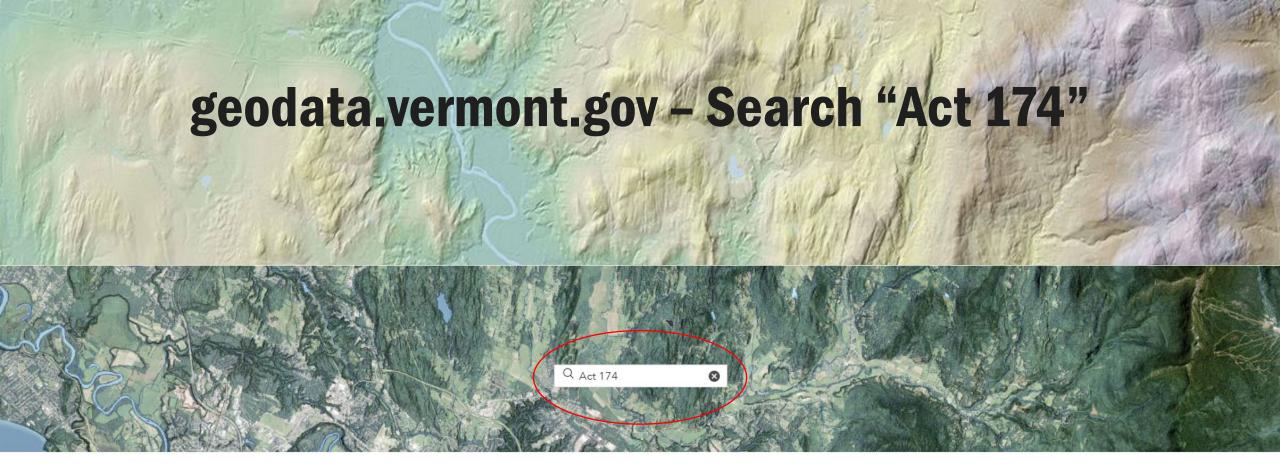




Access to Act 174 Data

Downloads Services Vermont Planning Atlas Act 174 Data Release Page















Agriculture

Basemap

Boundaries

Climate

Demographic + Economic



STATE OF VERMONT

Vermont Open Geodata Portal

DATA WEB SERVICES APPLICATIONS DEVELOPERS CONTACT US HELP

Q Act 174 constraints				8	
All	Data	Do	ocuments	Apps & Maps	
Filters Res	1 - 20 of 44 results			Relevance ▼	
Content Type	∧ ⊟ Data				
Feature Layer	VT Act 174 Wind Po		. NGC		
Document Link Layer Package	VT Center for Geograph	ic information Openda	ta_VCGI		
Source		(Link to Metadata) 2022 update. The statewide wind potential layer used in the Act 174 effort represents three combined wind resource layers: Potential Residential and Small and Large			
Apply source	Type: Feature Layer Last Updated: November 30	0. 2022	Rows: 519,503	ubthemeOther, nodeVCGI, datase	
VT Center for Geographic Information					
Vermont Agency of Natural Resources	⊜ Data				
ANR - DEC	VT Act 174 Ground	Mount Solar Poten	tial		
Natural Resources Board VT Legislative Council	VT Center for Geograph	ic Information Openda	ta_VCGI		
More V			tatewide solar potential layer e Energy Atlas of Vermont (Rf		
Categories	Type: Feature Layer Last Updated: November 30	0, 2022	Rows: 359,627 Tags: isothemeEnviron, s	ubthemeOther, nodeVCGI, datase	
Apply category					
Boundaries					
Environment	Document				
Administrative	VT Service - Vector	Tile Laver - Act 174	Possible Constraints 202	2	
Energy Resources	VT Service - Vector Tile Layer - Act 174 Possible Constraints 2022 VT Center for Geographic Information Opendata_VCGI				
State Administrative			_		
More ~	VECTOR_VCGI_ACT1	74POSSIBLECONSTR	RAINTS_WM_v2022		
License	Type: Document Link Publish Date: February 27, 2	2023	Tags: ACT 174, isotheme	Environ, nodeVCGI, itemtypeWeb	

□ Data

VT Data - Rooftop Solar Potential - Act 174 2022

VT Center for Geographic Information | Services_VCGI

(Link to Metadata) Shows the solar potential of Vermont rooftops believed to be suitable for solar energy in Megawatt hours. Workflow from https://learn.arcgis.com/en/projects/estimate-solar-...

Type: Feature Layer

Last Updated: December 31, 2022

Rows: 258,197
Tags: ACT 174, isothemeEnviron, nodeVCGI, itemtypeWeb...

⊜ Data

VT Data - Town Rooftop Solar Potential - Act 174 2022

VT Center for Geographic Information | Services_VCGI

(Link to Metadata) This hosted feature layer contains summary information on the rooftop solar radiation and electric productivity potential for each town in Vermont. Units are in Megawatt hour...

Type: Feature Layer

Rows: 256

Last Updated: January 6, 2023 Tags: ACT 174, isothemeEnviron, nodeVCGI, itemtypeWeb...

Document

VT Service - Lidar Rooftop Area Solar Radiation (1m), Cached - WM

VT Center for Geographic Information | Opendata_VCGI

The ESRI Area Solar Radiation tool was run on the statewide nDSM with a mask on lidar derived building footprints. This Tile layer's source data is available as a TIF-file download.

Type: Document Link

□ Data

Tags: ACT 174, isothemeEnviron, nodeVCGI, itemtypeWeb...

Publish Date: February 13, 2023

VT Service - Act 174 Constraint Layers - 2022

VT Center for Geographic Information | Services_VCGI

In coordination with Vermont Regional Planning Commissions, The Department of Public Service, the Vermont Center for Geographic Information, and Agency of Natural Resources have created...

Type: Feature Service Last Updated: April 10, 2023

Type: Vector Tile Service

Uploaded: February 28, 2023

Tags: isothemeEnviron, subthemeEnvironOther, nodeVCGI,...

& Map

VT Service - Vector Tile Layer - Act 174 Known Constraints 2022

VT Center for Geographic Information | Services_VCGI

Known constraints composite vector tile layer (signals likely, though not absolute, unsuitability for development based on statewide or local regulations or designated critical resources) to include:...

Tags: ACT 174, isothemeEnviron, subthemeEnvironOther, n.



VT Act 174 Wind Potential



VCGI Opendata VCGI VT Center for Geographic Information

Summary

To assist in Act 174 efforts to identify potential areas for the development and siting of renewable nergy resources. Note: See links above for methodologies, attribute descriptions and other details etc. All wind layers were also processed to remove none viable areas (low average wind speed - noted in municipal guidance document) from the analysis. The raw wind layer input for the Act174 effort is a "union" of these three layers:

View Full Details

Download

Details

Dataset
Feature Layer

i December 12, 2022 Info Updated

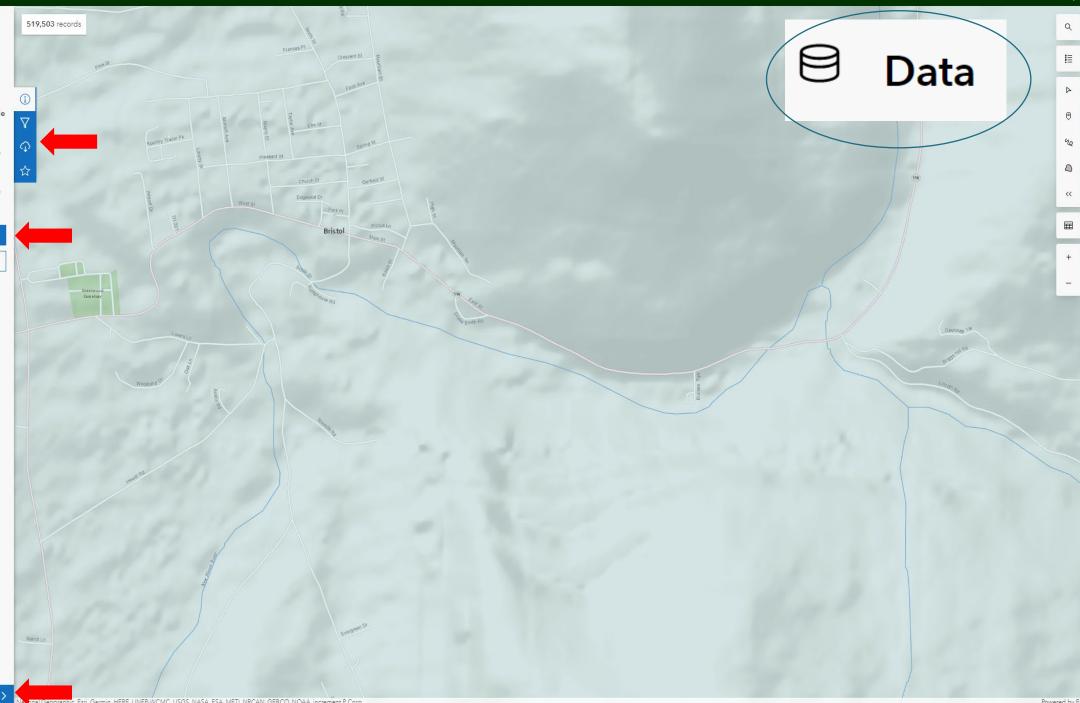
Tregular
Data Updated: December 1, 2022

January 28, 2017
Published Date

519,503 Records View data table

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STATE OF VERMONT

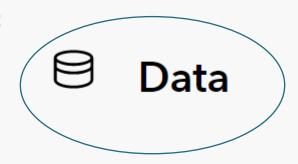
Vermont Open Geodata Portal

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VT Service - Act 174 Constraint Layers - 2022





Summary

This web layer contains all of the known and possible Act174 Constraint Layers.

In coordination with Vermont Regional Planning Commissions, The Department of Public Service, the Vermont Center for Geographic Information, and Agency of Natural Resources have created these layers that represent the best available known and possible constraints detailed in the Act 174 Energy Planning Mapping Standards for Municipal Plans. The following layers are snapshots in time and represent the best available information as of July 2022.

Known Constraints are available as a downloadable .zip.

Possible Constraints are available as a downloadable .zip.

Details



riviap Feature Service



April 10, 2023 Date Updated



January 9, 2023
Published Date

View license details



Publi

Anyone can see this content



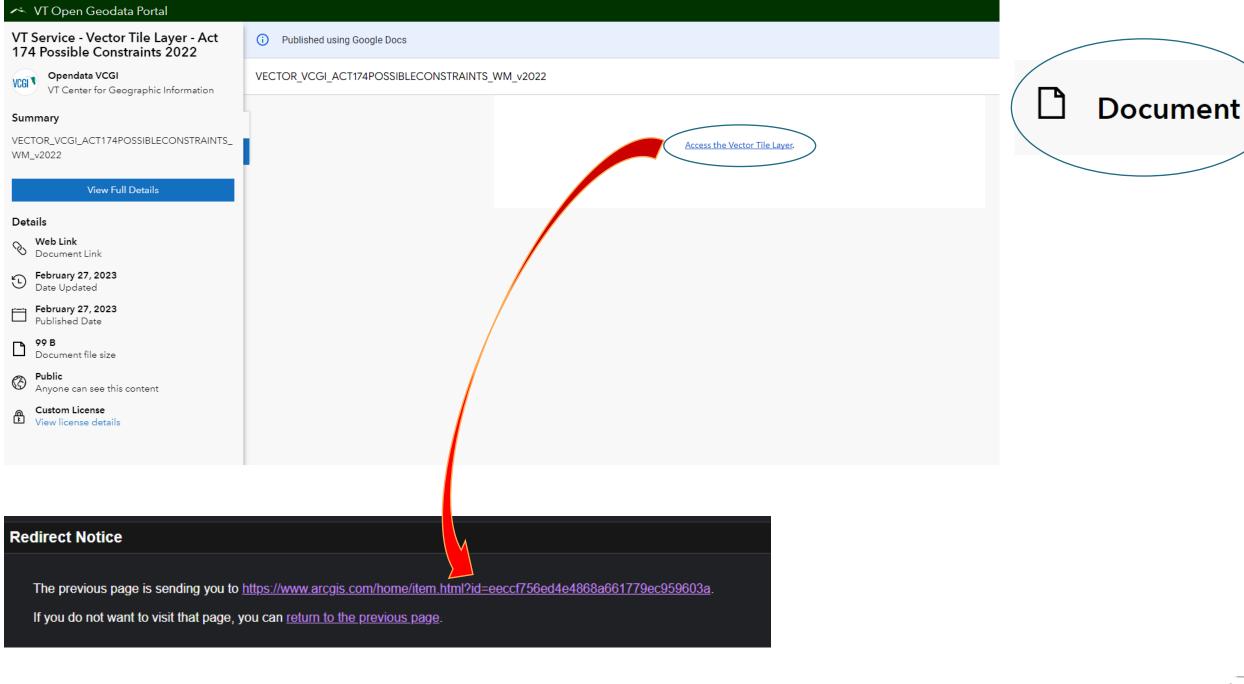
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Google Drive can't scan this file for viruses.

KnownConstraints2022_dwnld.zip (122M) is too large for Google to scan for viruses. Would you still like to download this file?

Download anyway







VT Service - Vector Tile Layer - Act 174 Known Constraints 2022



Services VCGI

VT Center for Geographic Information

Summary

VECTOR_VCGI_ACT174KNOWNCONSTRAINTS_ WM_v2022

View Full Details

Details

Developer

Vector Tile Service

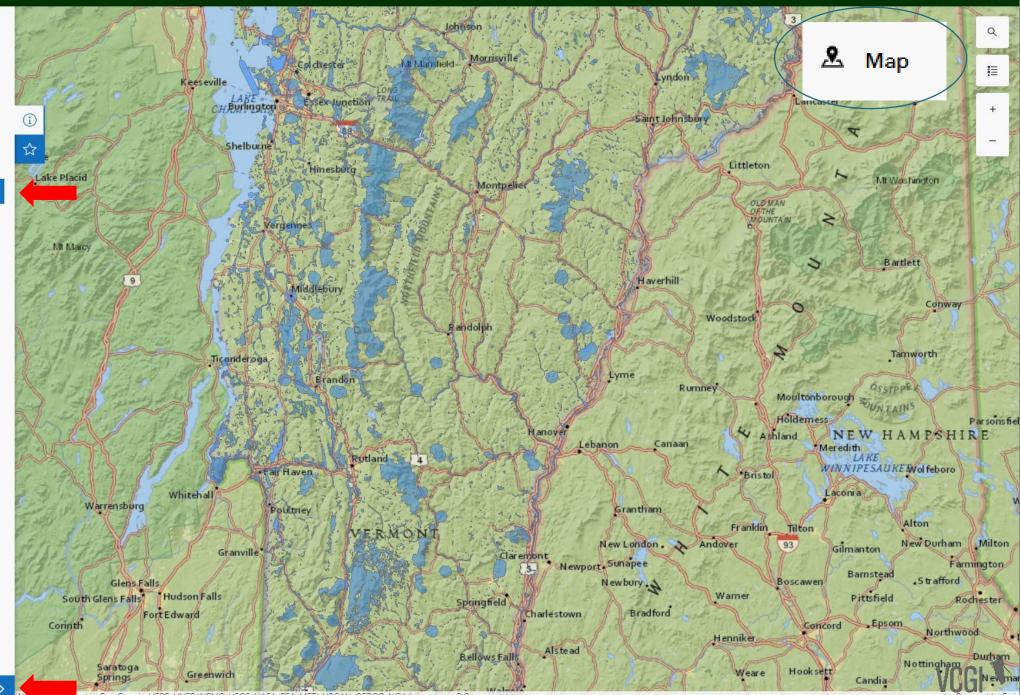
February 28, 2023
Date Updated

December 1, 2022 Published Date

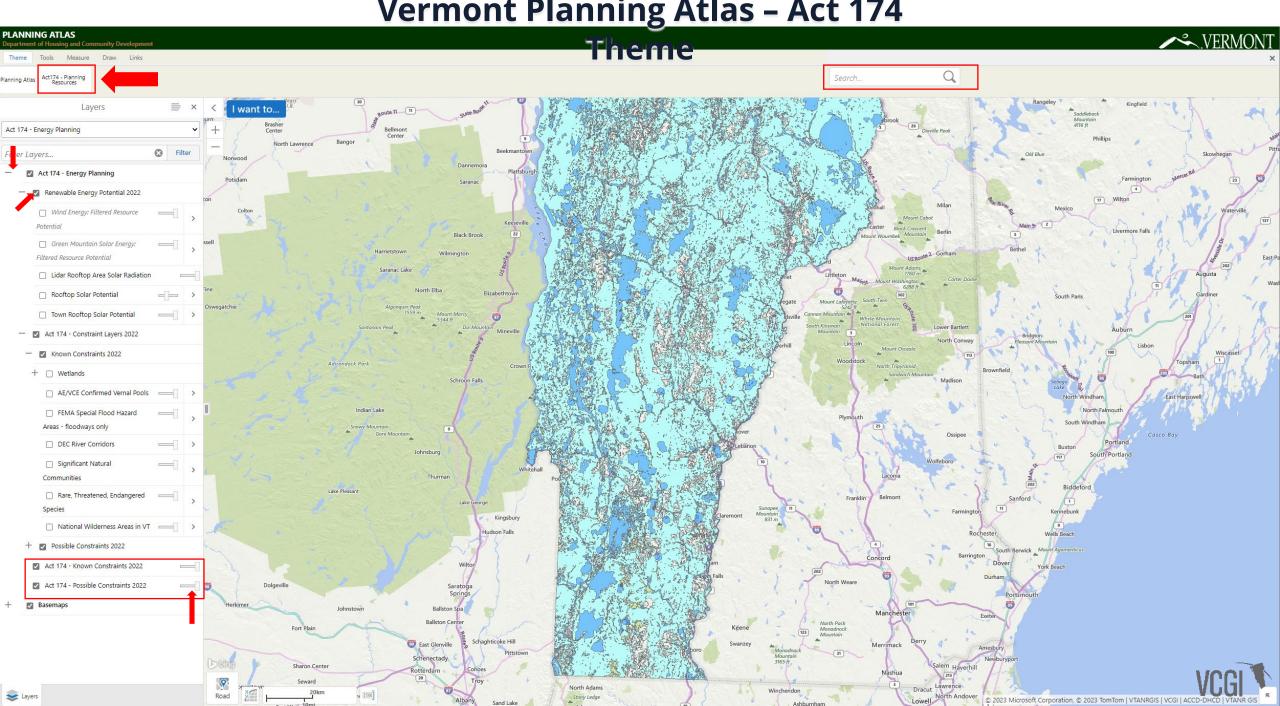
Public

Anyone can see this content

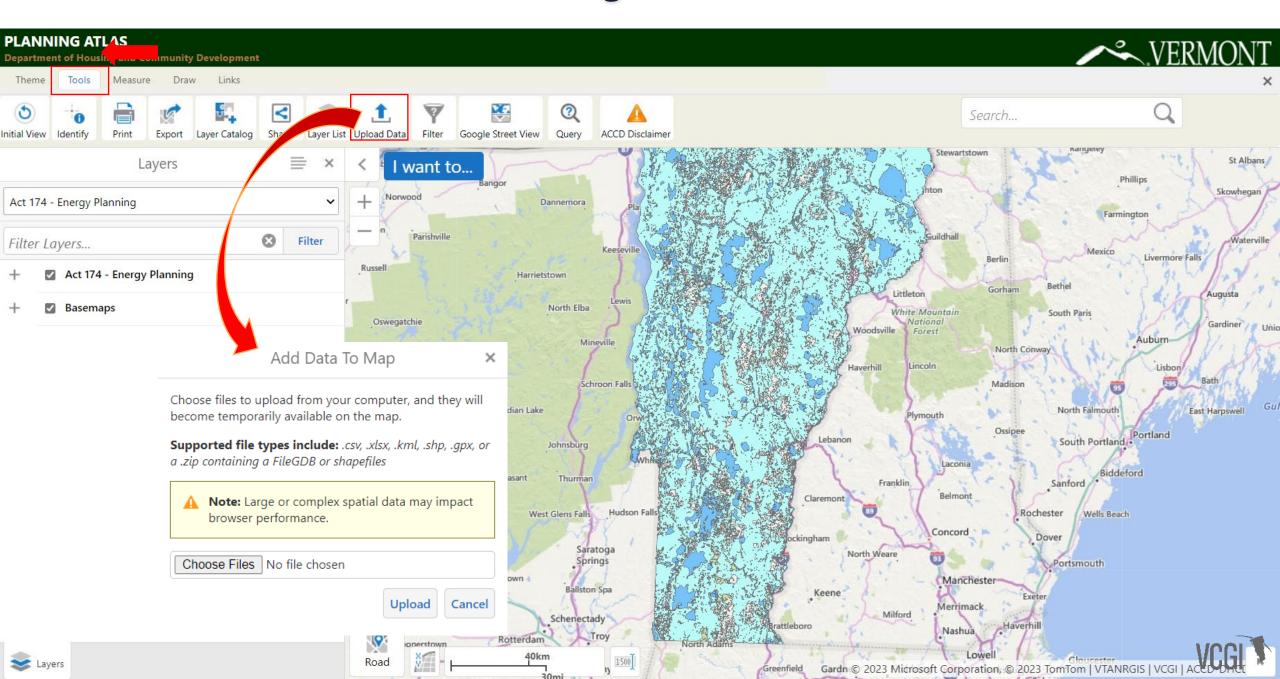
Custom License
View license details



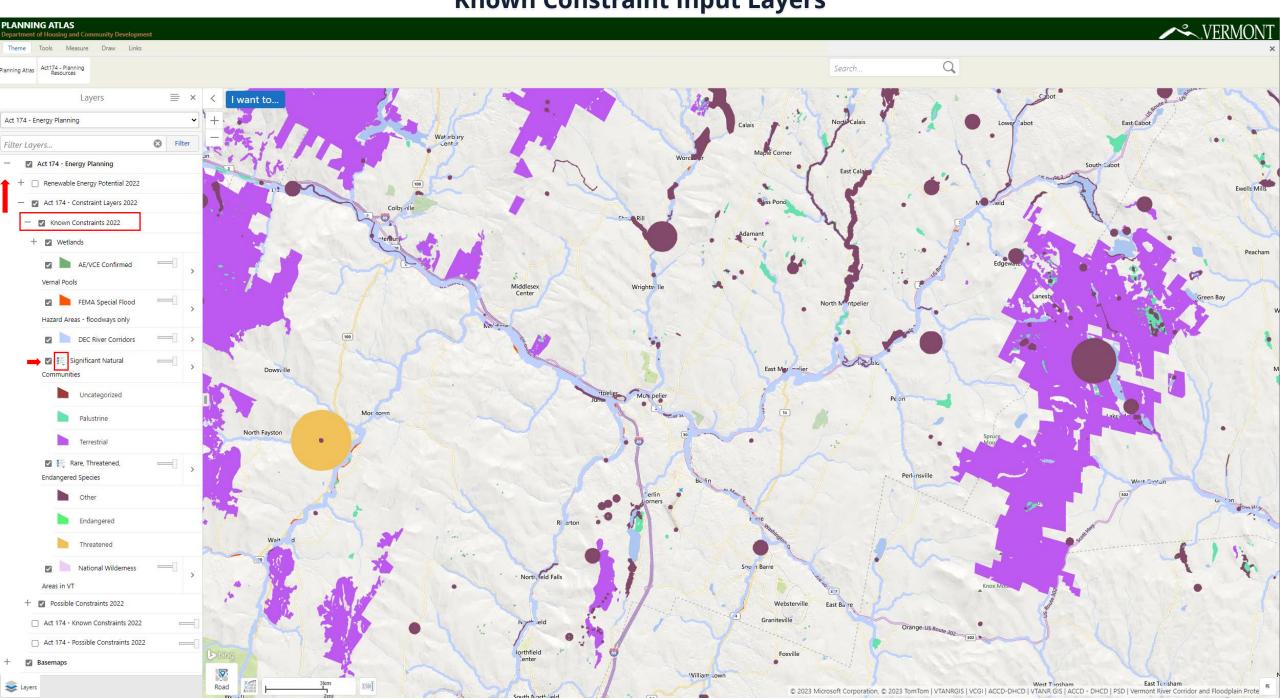
Vermont Planning Atlas - Act 174



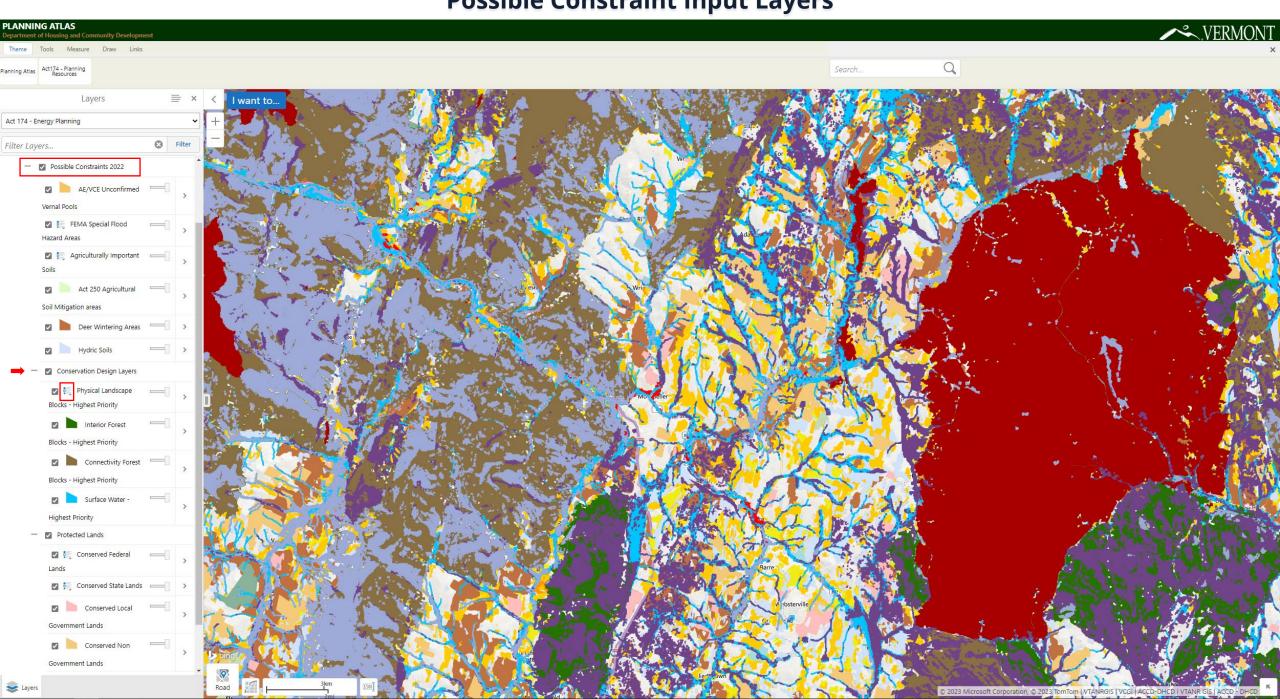
Vermont Planning Atlas - Default View



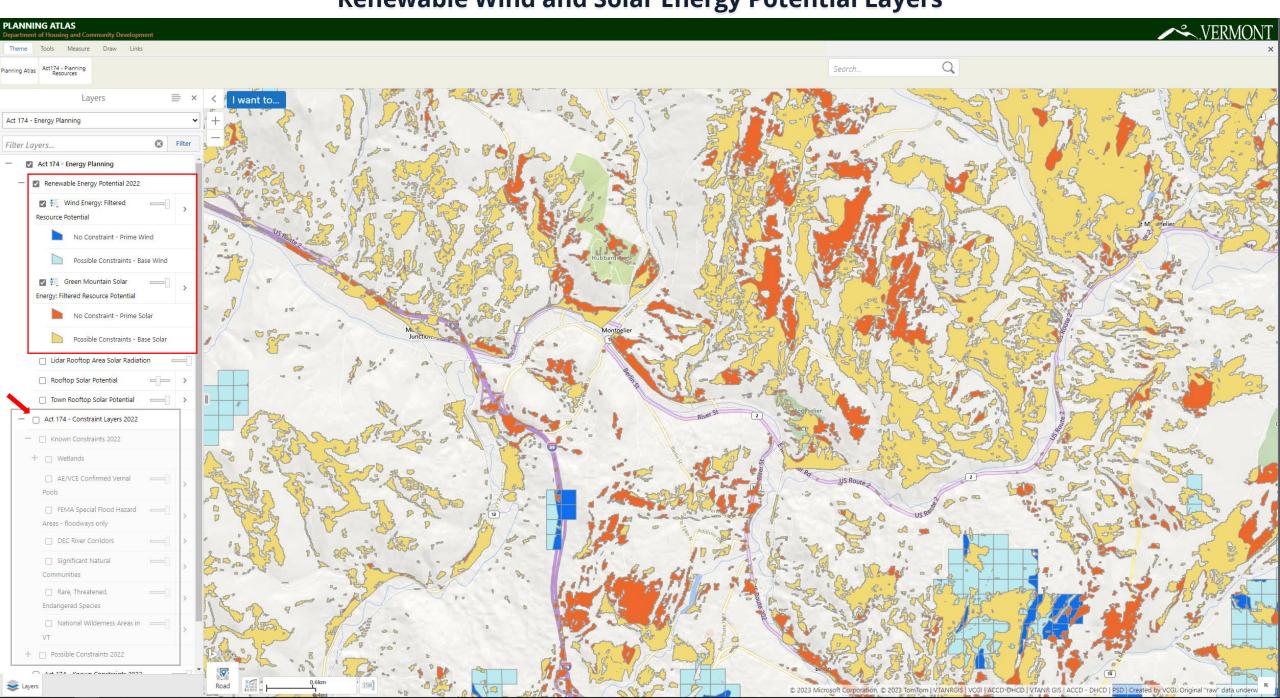
Known Constraint Input Layers



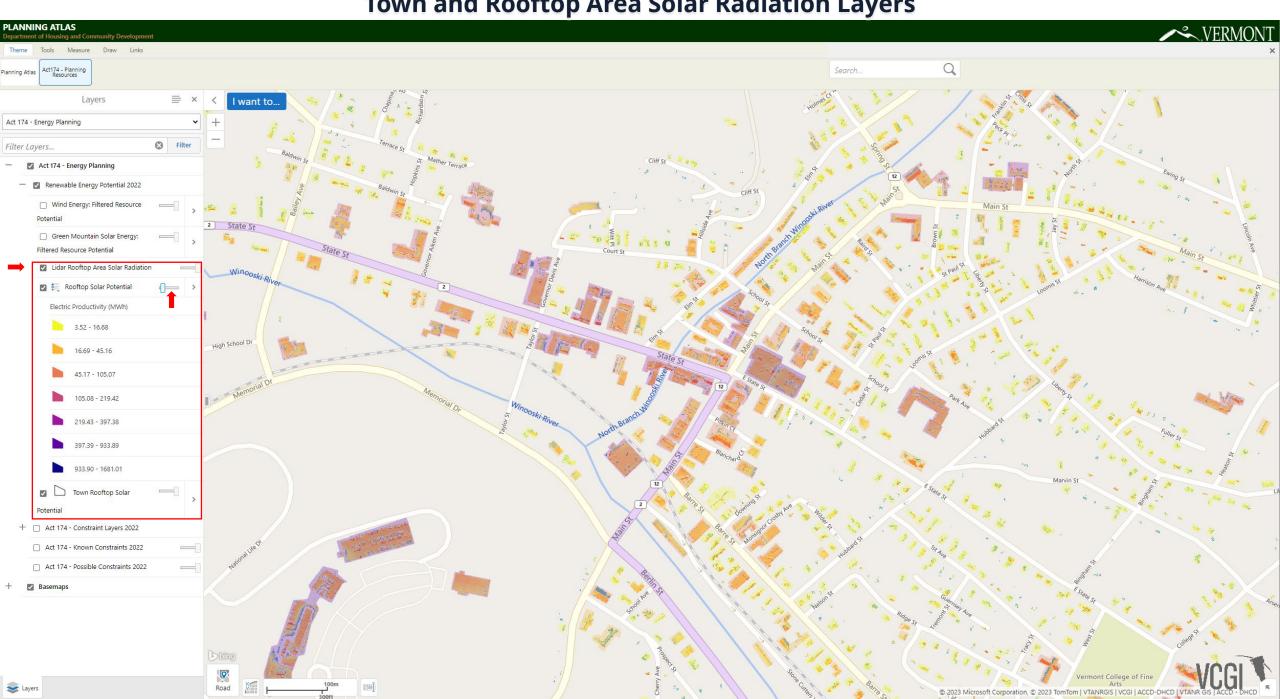
Possible Constraint Input Layers

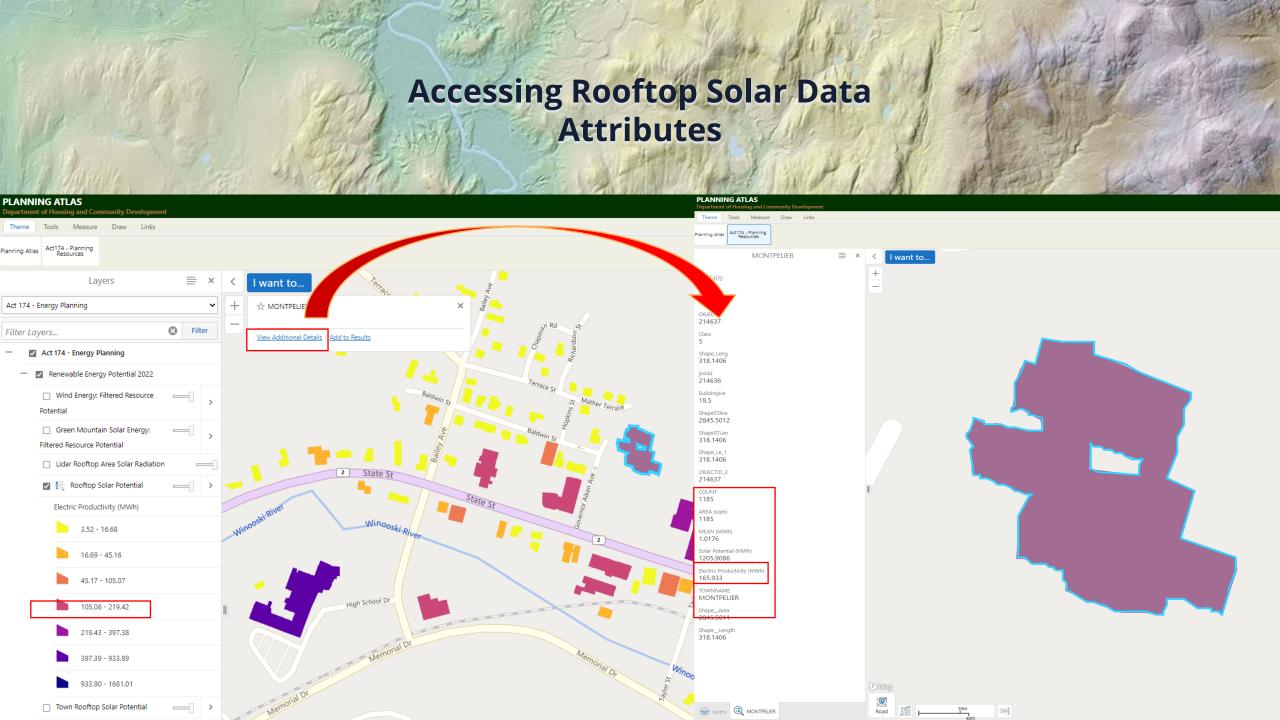


Renewable Wind and Solar Energy Potential Layers

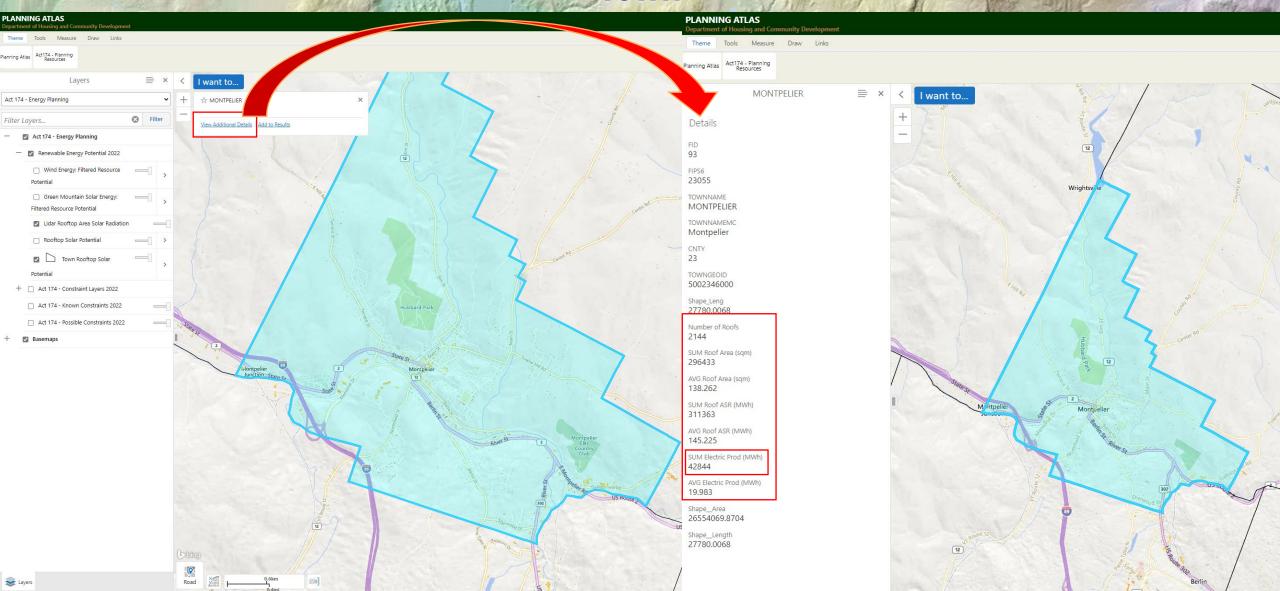


Town and Rooftop Area Solar Radiation Layers





Accessing Rooftop Solar Attributes Aggregated by Town



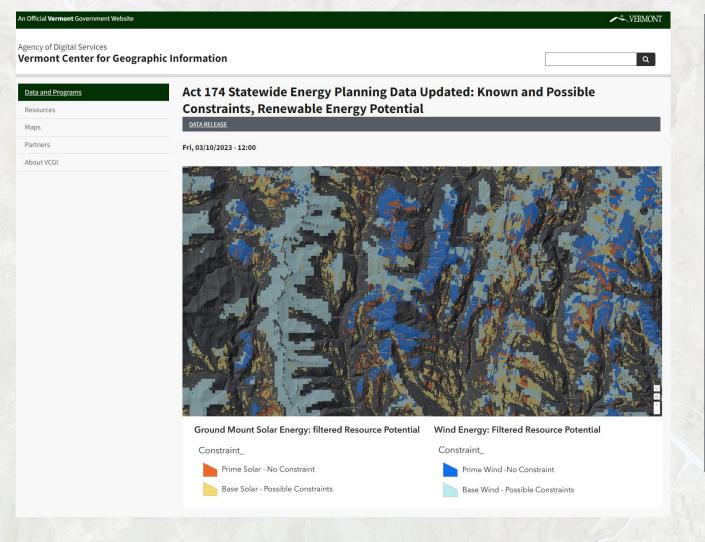
Vermont Planning Atlas - Additional Thoughts

- The Planning Atlas is a viewer used for sharing GIS information.
 - Not really for data creation
 - Or cartography
 - Or geoprocessing/analysis
 - Or data management...
- The Act 174 theme of The Planning Atlas was designed to improve the equity of access to GIS solutions by RPCs who are engaging in this work.
- Constructive feedback is encouraged! What is it missing?



Raw Data Products

Act 174 Statewide Energy Planning Data Updated: Known and Possible Constraints, Renewable Energy Potential | Vermont Center for Geographic Information



VT Act 174 Ground Mount Solar Potential	Feature Layer	Service, Download	Service	Download
VT Act 174 Wind Potential	Feature Layer	Service, Download	Service	Download
VT Service - Act 174	Feature Layer	Service, Zipped download	Service	See Below
Constraint Layers - 2022	Web Feature Service (WFS)	Service	Service (WFS)	
VT Service – Vector Tile Layer – Act 174 Known Constraints 2022	Vector Tile	Service, Zipped download	Service (Vector Tile)	Download (.zip)
VT Service – Vector Tile Layer – Act 174 Possible Constraints 2022	Vector Tile	Service, Zipped download	Service (Vector Tile)	Download (.zip)
VT Service – Lidar Rooftop Area Solar Radiation (1m) Cached – WM	Tile Layer	Service, Zipped download	Service	Download (.zip)
VT Data - Rooftop	Feature Layer	Service, Download	<u>Service</u>	<u>Download</u>
Solar Potential – Act 174 2022	Web Feature Service (WFS)	Service	Service (WFS)	
VT Data - Town	Feature Layer	Service, Download	<u>Service</u>	Download
Rooftop Solar Potential – Act 174 2022	Web Feature Service (WFS)	Service	Service (WFS)	



Linked Resources

- Act 174 Statewide Energy Planning
 Data Updated: Known and Possible
 Constraints, Renewable Energy
 Potential | Vermont Center for
 Geographic Information
- Search for 'act 174' | Vermont Open Geodata Portal Your source for geospatial data(Raw Data Access)
- Geocortex Viewer for HTML5
 (vermont.gov)
- ANR Natural Resources Atlas

- Vermont Lidar Program
- VCGI News and Announcements

 (e.g., new data release notice)
- Learning Resources
- Estimate solar power potential |
 Learn ArcGIS
- Project Sunroof Data Explorer
- Green Power Equivalency Calculator
 Calculations and References | US
 EPA



